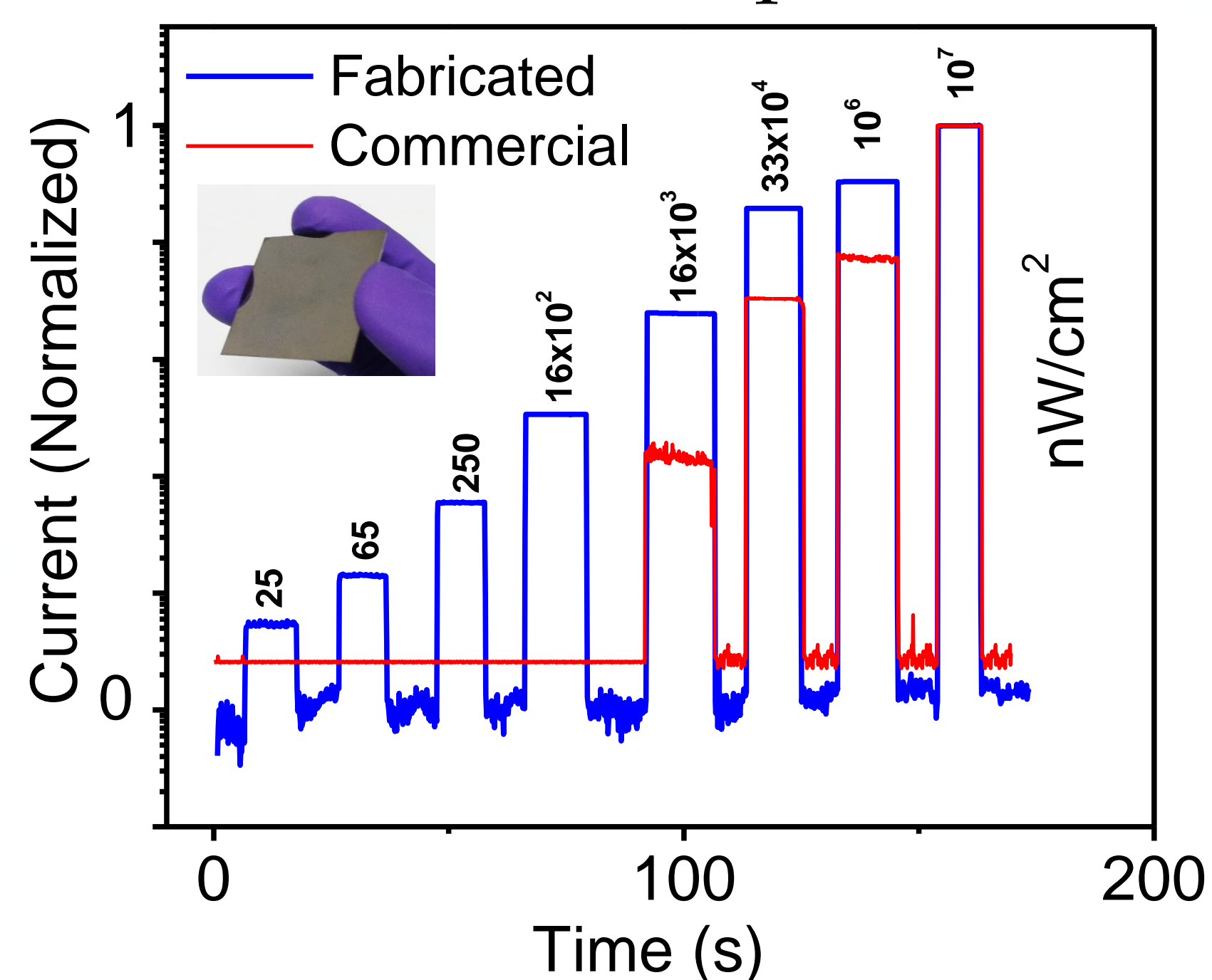


Detecting The Unseen



Photodetector is the heart of any optoelectronic circuit. Photodetectors are found everywhere starting from automatic lighting in supermarkets to detecting radiation from outer galaxy. They also play a vital role in security related applications. However, the material cost and the intricate fabrication processes involved in realizing high performance detectors make them non affordable for day to day applications. The present invention involves a simple cost effective solution based method of fabricating high performance photodetector. This fast responding (\sim few μ s) detector exhibits high detectivity ($\sim 10^{13}$ Jones) which enables it to sense very minute scattered light (nW/cm^2) in wide wavelength range (UV-Visible-IR), better than the best commercially available.



In the example shown, a fabricated detector is mounted besides a high value commercial detector for comparison, and connected to same external circuit to trigger warning lights and security buzzer. The door is opened to allow only weak scattered light as a sign of unwanted activity. With such low level of lighting, not detectable by the human eye, the fabricated detector could be activated turning on the buzzer and the lights. The commercial detector required more light (visible also to the eye) to get activated.

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